DOCUMENT RESUME

ED 290 791 TM 011 031

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TITLE The Decision/Adoption Model as a Heuristic Program Theory.
PUB DATE Oct 87
NOTE 13p.; Paper for the Annual Meeting of the American Evaluation Association (Boston, MA, October 15-17, 1987).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Decision Making; *Educational Assessment; *Evaluation; Heuristics; Models; *Program Evaluation
IDENTIFIERS Cooperati Extension Service; *Decision Adoption Model; Decision Theory; *Heuristic Program Theory

ABSTRACT

The emerging concept of program theory and its function in program evaluation practice is the central focus of this paper. It appears that the traditional decision/adoption model, when considered in conjunction with the institutionalized beliefs, values, and methodological procedures of the state Cooperative Extension Services, meets the criteria of a heuristic program theory. The following 10 functions constitute criteria for rating the utility of the decision/adoption model: (1) contribution to social science knowledge; (2) provision of assistance to policymakers; (3) discrimination between theory failure and program failure; (4) identification of the problems and target groups; (5) provision of implementation description; (6) discovery of unintended effects; (7) specification of intervening variables; (8) improvement of formative use of evaluation; (9) clarification of measurement issues; and (10) improvement of consensus formation. There is a need to develop evaluation methodologies that examine diffusion process variables. Additional program process related data are needed to support alternative interpretations of possible program impact as defined under the assumptions of the decision/adoption model. (TJH)

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ED290791

THE DECISION/ADOPTION MODEL AS A HEURISTIC PROGRAM THEORY

A Paper for the
American Evaluation Association

October 15-17, 1987
Boston, Massachusetts

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Abstract

The emerging concept of program theory and its function in program evaluation practice is the central focus of this paper. The author suggests that the traditional decision/adoption model, when considered in conjunction with the institutionalized beliefs, values and methodological procedures of the state Cooperative Extension Services, meets the criteria of a heuristic program theory.

THE DECISION/ADOPTION MODEL AS A HEURISTIC PROGRAM THEORY

The central focus of this paper is to present the point of view that the traditional decision/adoption model, when considered in conjunction with the documented and institutionalized beliefs, values and policies of the cooperative Extension system is, in itself, a heuristic program theory. It is suggested that as a heuristic program theory, the decision/adoption model (Figure 3) meets most, if not all, of the conditions of an adequate program theory as defined in the literature(6) (Figure 1). As a heuristic program theory the decision/adoption model provides the framework that defines how a program is supposed to work without regard to the subject-matter or content of the program. It works equally well for programs that are to accomplish individual or group outcome goals, as group goal achievement is the product of individual behavioral change in its aggregate form.

From a historical perspective, there is adequate documentation to support the assumption that CES program philosophy has been institutionalized to reflect a consistent set of beliefs, values and methodological procedures that are well documented and internalized by professional staff and clientele through a well-defined program of employee and volunteer orientation and training. A review of resource materials used to train staff and volunteers across the state CES systems would almost certainly reveal that the program model as illustrated in Figure 2 serves as the basis for this training. This basic program model is reinforced by an administrative structure and organizational reward system that legitimizes the basic assumptions of the decision/adoption model as part of the total organizational structure that in effect serves as a heuristic model for most, if not all, Extension programs.

RATIONALE

The program model illustrated in Figure 2 implies that Extension methodology involves clientele to identify their economic and/or social needs and problems. In turn, the 'program' implements the teaching-learning process designed to provide the target audience with the appropriate knowledge, skills and supporting attitudes deemed necessary to produce the desired or preferred economic and/or social condition, as defined by the target audience.

Figure 1. SUMMARY OF PROGRAM THEORY AS DEFINED BY AUTHORS IN NEW DIRECTIONS FOR PROGRAM EVALUATION

Author	Program Theory Definition
Brickman	"...is the construction of plausable and sensible model of how a program is supposed to work."
Conrad	"...(is) a system of beliefs, values, and goals that define the structure, process and outcomes of a program."
Scheirer	"...clarifies the set of cause-and-effect relationships and thus provides the rationale for the treatment.
McClintock	"...includes scientific explanations, implicit theories, models of input, processes, and outputs, as well as policy statements.
Wholey	"...(is) the identification of resources, activities and outcomes of a program and the causal assumptions that connect these.

Source: New Directions for Program Evaluation - Using Program Theory in Evaluation, Volumn 33, Leonard Bickman, Editor. (6)

FIGURE 2. A GENERALIZED PROGRAM DEVELOPMENT MODEL APPLICABLE TO MOST CES ORGANIZATIONAL STRUCTURES

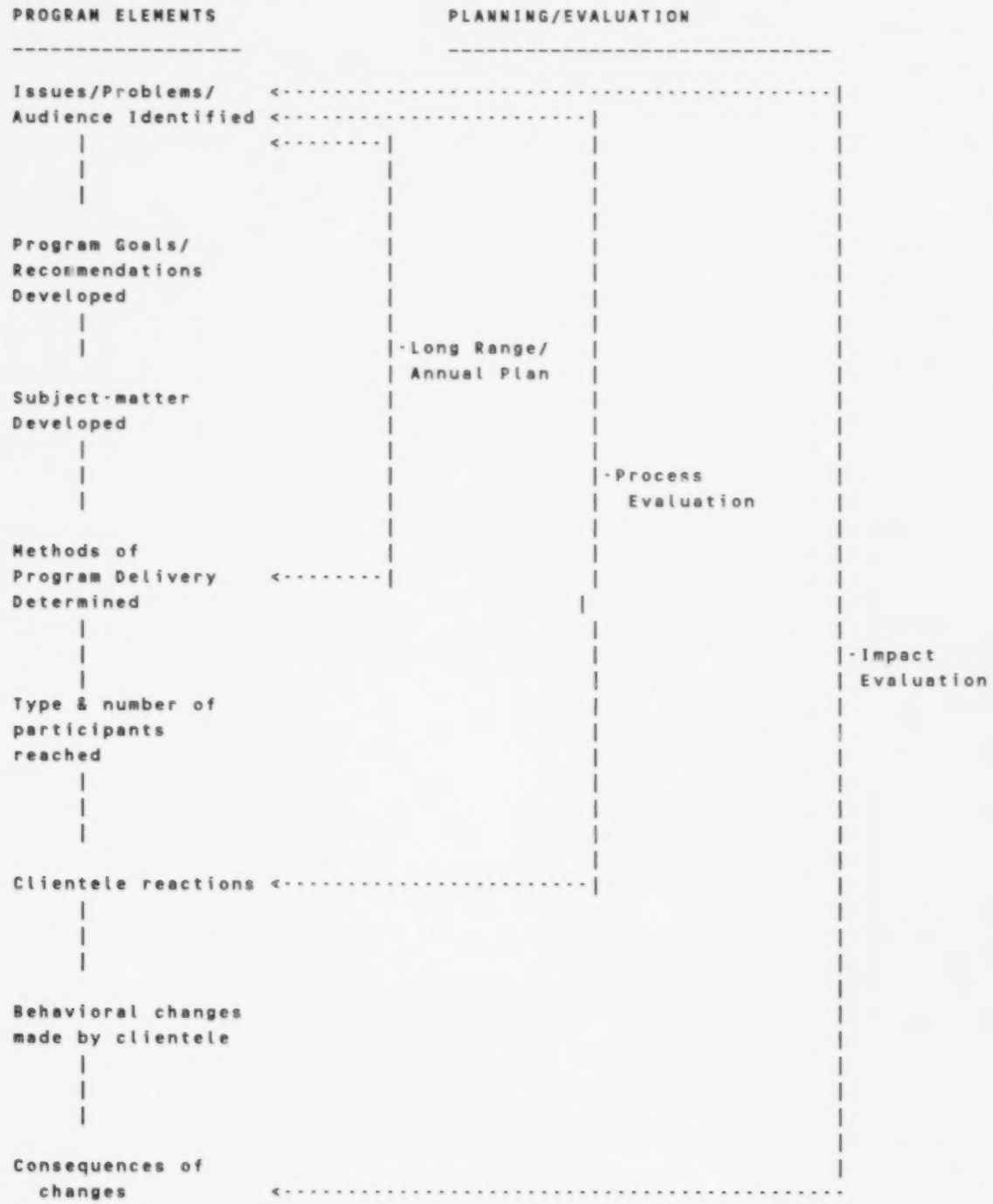
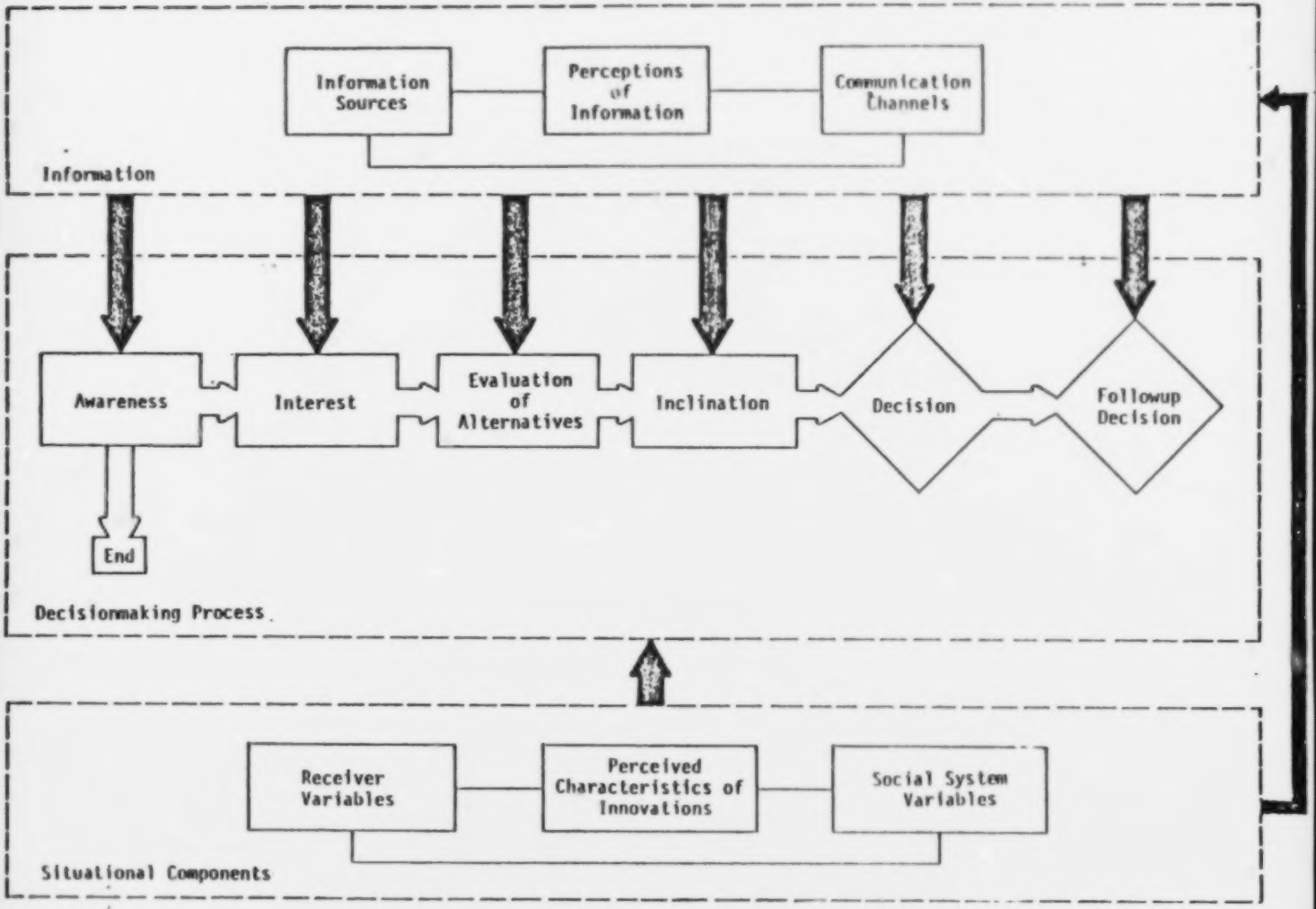


Figure 3. Revised Paradigm of the Decision/Adoption Model or Diffusion Process(1)



The diffusion literature (2) supports the supposition that we change behavior not as an instantaneous act, but rather, through a process that occurs over time and consists of a series of actions. These stages in the decision/adoption process are directly related to how individuals seek and use knowledge resources (3)(5). Thus, the apparent relationship between the decision/adoption model and the individual learning curve provides the theoretical basis upon which Extension program theory presides. Perhaps, different than most other nonformal educational agencies, Extension has institutionalized a set of beliefs, values, organizational policies and generalized missions that reflect a specific cause-and-effect relationship as an outcome of a specific operational program model.

Although there are obvious exceptions to this relationship, such as forced compliance or acceptance of behavior resulting from acquiescence to authority (4), it appears that many, if not most, Extension recommendations are adopted or rejected as a function of learning about them in the tradition of the decision/adoption model.

Traditional approaches to estimating Extension program outcomes have failed to take into account alternative outcomes that represent positive (in terms of program theory) results to the clientele, and for the most part, have not attempted to estimate the continuing benefits accruing to the client over time. For the most part, these shortfalls in past evaluation designs of the diffusion tradition are methodological in nature. That is, the researchers and evaluators have failed to use appropriate evaluation methods required to examine process related variables and how these variables interact with the decision/adoption process as illustrated in Figure 3. A pilot project (5) conducted by the author was able to demonstrate with some success that the alternative interpretations of the decision/adoption process as listed below can be identified and measured within the tradition of basic diffusion literature. Very little has been done to develop the appropriate methodology to examine program process in conjunction with clientele acquisition of recommended adoption behavior. Such methodology should be designed to look inside the so called 'black box' that critics of the diffusion decision/adoption model so often refer. Rogers (2) cites these methodological problems in some detail when discussing criticisms of diffusion research and suggests that "... there is much more to diffusion than just variables narrowly related to an

innovation's rate of adoption.

INTERPRETING THE DECISION/ADOPTION MODEL AS A PROGRAM THEORY

The decision/adoption model as a program theory allows alternative interpretations of cause-and-effect relationships related to program effects. For example, when evaluating program outcomes, the following conditions represent positive alternatives:

* Acquisition of knowledge, skills and attitudes related to the stages of the decision/adoption process
* Decision to adopt a prescribed behavior
* Decision to adopt a prescribed behavioral change with modifications
* Decision NOT to adopt a prescribed behavioral change when not in the best interest of the client
* Decision to try a prescribed behavioral change and then reject it for justifiable reasons

Although there are methodological implications for using the alternative interpretations above, the decision/adoption model provides for a program theory for each condition.

EVALUATING THE DECISION/ADOPTION MODEL AS A PROGRAM THEORY

Bickman (1) outlines 10 positive functions program theory can have on evaluation:

* Contributing to social science knowledge
* Assisting policymakers
* Discriminating between theory failure and program failure
* Identifying the problem and target groups
* Providing implementation description
* Uncovering unintended effects
* Specifying intervening variables
* Improving formative use of evaluation
* Clarifying measurement issues
* Improving consensus formation

Figure 4 attempts to rate the utility of the decision/adoption model as a program theory using these 10 functions as criteria. Justification for these ratings are presented in the following analysis of each function.

Contributing to social science knowledge: There already exist a large volume of diffusion related literature. Focusing on methodologies that would expand the evaluation/research to include process oriented variables would make a valuable contribution to social science knowledge.

Assisting policymakers: Most policymakers, both internal and external to the CES systems, have a general understanding of the decision/adoption process. Formulating program results in terms of the model may improve the utilization of evaluation results in the policy making process.

Discriminating between theory failure and program failure: The model, by definition, places the burden of success on adequate implementation of the diffusion process. If the alternative interpretations of the model are used with process related data, reasons for program success or failure can be determined.

Identifying the problems and target groups: The model clearly assumes that the problems/needs to be solved by the program have been clearly identified and made explicit as specific overt or covert behavioral components. The application of the model provides the criteria for determining whether or not this element of the program development model has been adequately implemented.

Providing implementation description: The model provides for a complete description of the implementation strategies in the long range and annual plan of action. In theory, the long range and annual plan of action provides an adequate program description if revised to reflect what program strategy was actually implemented.

Uncovering unintended effects: Unless specific evaluation methodologies are used to determine unintended program impact, the model does not account for outcomes beyond those assumed as alternative interpretations as outlined above.

Specifying intervening variables: At the macro level the model suggests generalized categories of variables associated with the information diffusion, the decision process and situational components of the model. It does not suggest specific variables associated with the macro levels.

Improving formative use of evaluation: Unless specific evaluation methodologies are used, the model focuses on outcome measures, however, the model clearly defines the process variables at the macro level that interact with the decision/adoption process.

Clarifying measurement issues: In a general sense, the model defines the type of measurements required to assess the alternative program outcomes. It implies that process variables would require appropriate methodologies using both quantitative and qualitative measures.

Improving consensus formation: Since the model influences the program development process, consensus among stakeholders is generally achieved in the program development process, thus, promoting legitimization of expected program outcomes and evaluation procedures.

SUMMARY

This article attempts to demonstrate the relationship that appears to exist between the traditional CES program development model and the assumptions of the decision/adoption model as defined in the diffusion literature. It is suggested that this unique relationship provides the basis for viewing the decision/adoption model as a heuristic program theory that defines how most CES programs are supposed to work without regard to specific subject-matter or program content. The need to develop evaluation methodologies that examine diffusion process variables is noted. Additional program process related data are needed to support alternative interpretations of possible program impact as defined under the assumptions of the decision/adoption model.

Figure 4. RATING THE DECISION/ADOPTION MODEL AS A PROGRAM THEORY USING BICKMAN'S 10 FUNCTIONS IN EVALUATION AS CRITERIA

EVALUATION FUNCTION	RATING
Contributing to social science knowledge	HIGH
Assisting policymakers	HIGH
Discriminating between theory failure and program failure	HIGH
Identifying the problem and target groups	MEDIUM
Providing implementation description	HIGH
Uncovering unintended effects	LOW
Specifying intervening variables	LOW
Improving formative use of evaluation	LOW
Clarifying measurement issues	MEDIUM
Improving consensus formation	HIGH

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